



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D2893-1
Job Sheet 187492



Part No: D2893-1

Job Qty: ~~5 ea~~ **20 JW**

Part Name: Support



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 12/5/18

Job Tracking No:

Due Date: 12/28/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV C IPP: C 02.11.26 Reformat; Added P/O KJ IPP D 06.04.19 removed alodine EC IPP Rev:E Added priming as per Rev B 07-04-30 JLM IPP F 08.03.19 Re-format EC verified by: DD IPP Rev:G 08-05-15 add QC14 DD verified by:EC IPP Rev:H 11.08.04 as per dwg rev.C DD verf:EC

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	5 Ea	12/28/18	12/28/18	0.00	0.00	Start Up Machining-1		Kt 2018-12-30
100	CNC Vertical Machining	5 pcs	12/28/18	12/28/18	0.33	9.80	HAAS1-2		Kt 2018-12-30
120	QC	5 pcs	12/28/18	12/28/18	0.00	0.00	QC8 Machining-1		B. 19-01-14
130	Crosstubes	5 pcs	12/28/18	12/28/18	0.00	0.83	Crosstubes-2		A8 19-1-17
140	QC	5 pcs	12/28/18	12/28/18	0.00	0.00	QC3		38
170	Packaging	5 pcs	12/28/18	12/28/18	0.00	0.00	Packaging3-1	LG 0500	A8 19-1-14
180	QC21-SA	5 Ea	12/28/18	12/28/18	0.00	0.00	QC21		21 19-1-14

Part Op 100 - 1-Machine as per Folio FA081

Descriptions: 130 - Per note 8 on page 1 of dwg D2893, Prep inner concave surface of support and apply 3M Scotch-Weld as per dwg.

170 - LOCATION : LG050 **138852 exp 4/19**

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
DSK078	D2893-1 Turning Detail	2.5000 Ea (.5 ea)	90-Start up Operation	5126647

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	DSK078	3	10	0

Part Specifications

Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	2.750 Support	2.985Inches + 0.020 - 0.000	3.005 2.985		
2	2.750 Support	0.440Inches + 0.020 - 0.000	0.460 0.440		
3	2.750 Support	0.125Inches + 0.035 - 0.000	0.160 0.125		
4	2.750 Support	0.040Inches + 0.020 - 0.000	0.060 0.040		
5	2.750 Support	0.188Inches	0.193		

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

			+ 0.005 - 0.000	0.188
6	2.750 Support	0.125Inches	+ 0.035 - 0.000	0.160 0.125
7	2.750 Support	0.140Inches	+ 0.020 - 0.000	0.160 0.140
8	2.750 Support	1.360Inches	+ 0.040 - 0.000	1.400 1.360
9	2.750 Support	0.040Inches	+ 0.020 - 0.000	0.060 0.040
10	2.750 Support	1.190Inches	+ 0.040 - 0.000	1.230 1.190
11	2.750 Support	0.010Inches	+ 0.010 - 0.000	0.020 0.010
12	2.750 Support	0.053Inches	+ 0.020 - 0.000	0.073 0.053
13	2.750 Support	0.240Inches	+ 0.020 - 0.000	0.260 0.240
14	2.750 Support	2.518Inches	+ 0.020 - 0.000	2.538 2.518
15	2.750 Support	84.390Inches	+ 6.000 - 0.000	90.390 84.390
16	2.750 Support	0.261Inches	+ 0.005 - 0.000	0.266 0.261
17	2.750 Support	0.053Inches	+ 0.020 - 0.000	0.073 0.053

Plex 12/5/18 1:57 PM Dart.lajeunesse.marie



Container No: S140904



Part: D2893 - 1

Job No: 187492

Serial No/Batch: S140904

Revision:

Inspector:

Exp Date:

Instructions: Various STC's

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL : 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 12/30/18

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

DART AEROSPACE LTD		Work Order:	
Description: Ø2.750 Support		Part Number:	D2893-1
Inspection Dwg: D2893	Rev: C	Page 1 of 1	

FIRST ARTICLE INSPECTION DIMENSION SHEET

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	5
HAAS Section								
AA	2.985	3.005		2.993	2.993	2.997	2.996	2.997
AB	0.440	0.460		0.450	0.450	.460	.460	.460
AC	0.125	0.160		0.160	0.160	.160	.160	.160
AD	0.040	0.060		0.050	0.050	.053	.053	.054
AE	0.188	0.193		0.188	0.188	.188	.188	.188
AF	0.125	0.160		0.135	0.135	.140	.140	.140
AG	0.140	0.160		0.148	0.149	.152	.153	.153
AH	1.360	1.400		1.368	1.368	1.371	1.373	1.371
AI	0.040	0.060		0.050	0.050	.049	.049	.050
AJ	1.190	1.230		1.209	1.2095	1.210	1.210	1.211
AK	0.010	0.020		0.010	0.010	.015	.015	.015
AL	0.053	0.073		0.063	0.063	R.063	R.063	R.063
AM	0.240	0.260		0.250	0.250	R.250	R.250	R.250
AN	2.518	2.538		2.528	2.527	2.538	2.538	2.538
AO	84.39	90.39		87.39	87.39	87.00	87.00	87.00
AP	0.261	0.266		0.261	.261	261 Ø	261 Ø	261 Ø
AQ	0.053	0.073		0.063	0.063	R.063	R.063	R.063
AR								
AS								
AT								
Accept/Reject						MM	MM	MM

Measured by: MM / KT	Date: 2019/01/10
Audited by: B.E.	Date: 19-01-14
Preliminary Approval:	Date:

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	07.05.08	Dimension AP revised	KJ/JLM	
C	08.04.21	Reformat	KJ/JLM	
D	12.07.31	Dwg Rev updated	KJ	

DART AEROSPACE LTD		Work Order:	
Description: Ø2.750 Support		Part Number:	D2893-1
Inspection Dwg: D2893	Rev: C	Page 1 of 1	

FIRST ARTICLE INSPECTION DIMENSION SHEET

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	6 <i>1</i>	7 <i>2</i>	8 <i>3</i>	9 <i>4</i>	10 <i>5</i>
HAAS Section								
AA	2.985	3.005		2.996	2.996	2.996	2.995	2.995
AB	0.440	0.460		.460	.460	.460	.460	.460
AC	0.125	0.160		.160	.160	.160	.160	.160
AD	0.040	0.060		.049	.050	.051	.050	.050
AE	0.188	0.193		.188Ø	.188Ø	.188Ø	.188Ø	.188Ø
AF	0.125	0.160		.140	.138	.139	.137	.136
AG	0.140	0.160		.152	.150	.152	.150	.149
AH	1.360	1.400		1.370	1.375	1.373	1.374	1.375
AI	0.040	0.060		.050	.047	.048	.047	.047
AJ	1.190	1.230		1.209	1.210	1.212	1.211	1.210
AK	0.010	0.020		.015	.015	.015	.015	.015
AL	0.053	0.073		R.063	R.063	R.063	R.063	R.063
AM	0.240	0.260		R.250	R.250	R.250	R.250	R.250
AN	2.518	2.538		2.538	2.538	2.538	2.538	2.538
AO	84.39	90.39		87.00°	87.00°	87.00°	87.00°	87.00°
AP	0.261	0.266		.261Ø	.261Ø	.261Ø	.261Ø	.261Ø
AQ	0.053	0.073		R.063	R.063	R.063	R.063	R.063
AR								
AS								
AT								
Accept/Reject								

Measured by:	<i>M.M.</i>	Date:	<i>2019/01/10</i>
Audited by:	<i>B.E.</i>	Date:	<i>19-01-14</i>
Preliminary Approval:		Date:	

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	07.05.08	Dimension AP revised	KJ/JLM	
C	08.04.21	Reformat	KJ/JLM	
D	12.07.31	Dwg Rev updated	KJ	<i>[Signature]</i>

DART AEROSPACE LTD		Work Order:	
Description: Ø2.750 Support		Part Number:	D2893-1
Inspection Dwg: D2893	Rev: C	Page 1 of 1	

FIRST ARTICLE INSPECTION DIMENSION SHEET

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	11	12	13	14	15
HAAS Section								
AA	2.985	3.005		2.996	2.996	2.995	2.995	2.996
AB	0.440	0.460		.460	.460	.460	.460	.460
AC	0.125	0.160		.160	.160	.160	.160	.160
AD	0.040	0.060		.048	.049	.048	.048	.049
AE	0.188	0.193		.188Ø	.188Ø	.188Ø	.188Ø	.188Ø
AF	0.125	0.160		.137	.138	.138	.138	.137
AG	0.140	0.160		.151	.152	.151	.151	.152
AH	1.360	1.400		1.373	1.374	1.372	1.373	1.375
AI	0.040	0.060		.045	.044	.044	.044	.046
AJ	1.190	1.230		1.209	1.208	1.209	1.209	1.209
AK	0.010	0.020		.015	.015	.015	.015	.015
AL	0.053	0.073		R.063	R.063	R.063	R.063	R.063
AM	0.240	0.260		R.250	R.250	R.250	R.250	R.250
AN	2.518	2.538		2.538	2.538	2.538	2.538	2.538
AO	84.39	90.39		87.00°	87.00°	87.00°	87.00°	87.00°
AP	0.261	0.266		.261Ø	.261Ø	.261Ø	.261Ø	.261Ø
AQ	0.053	0.073		R.063	R.063	R.063	R.063	R.063
AR								
AS								
AT								
Accept/Reject								

Measured by:	<i>M.M.</i>	Date:	2019/01/11
Audited by:	<i>B.E.</i>	Date:	19-01-14
Preliminary Approval:		Date:	

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	07.05.08	Dimension AP revised	KJ/JLM	
C	08.04.21	Reformat	KJ/JLM	
D	12.07.31	Dwg Rev updated	KJ	<i>[Signature]</i>

DART AEROSPACE LTD		Work Order:	
Description: Ø2.750 Support		Part Number: D2893-1	
Inspection Dwg: D2893		Rev: C	
		Page 1 of 1	

FIRST ARTICLE INSPECTION DIMENSION SHEET

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	5
HAAS Section								
AA	2.985	3.005	2.996	2.997	2.996	2.996	2.996	
AB	0.440	0.460	.460	.460	.460	.460	.460	
AC	0.125	0.160	.160	.160	.160	.160	.160	
AD	0.040	0.060	.050	.050	.050	.050	.050	
AE	0.188	0.193	.188	.188	.188	.188	.188	
AF	0.125	0.160	.138	.138	.138	.138	.138	
AG	0.140	0.160	.152	.152	.152	.152	.152	
AH	1.360	1.400	1.372	1.372	1.372	1.372	1.372	
AI	0.040	0.060	.049	.049	.049	.049	.049	
AJ	1.190	1.230	1.208	1.208	1.208	1.208	1.208	
AK	0.010	0.020	.015	.015	.015	.015	.015	
AL	0.053	0.073	.063	.063	.063	.063	.063	
AM	0.240	0.260	.250	.250	.250	.250	.250	
AN	2.518	2.538	2.538	2.538	2.538	2.538	2.538	
AO	84.39	90.39	87.00	87.00	87.39	87.39	87.39	
AP	0.261	0.266	.261	.261	.261	.261	.261	
AQ	0.053	0.073	.063	.063	.063	.063	.063	
AR								
AS								
AT								
Accept/Reject								

Measured by: <i>K.T.</i>	Date: 2019-01-12
Audited by: <i>B.C.</i>	Date: 19-01-14
Preliminary Approval:	Date:

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	07.05.08	Dimension AP revised	KJ/JLM	
C	08.04.21	Reformat	KJ/JLM	
D	12.07.31	Dwg Rev updated	KJ	

DQA:

Date:

19-01-14

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed:

Date:

Work Order update only ☐

Work Order: <u>187492</u> Part No. <u>D2893-1</u> NCR No.		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☒ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date: <u>19-01-14</u>		Step #: <u>100</u>		QTY Effective: <u>20 parts</u>		MRB (QSI042) Approval <u>INS</u> <u>12</u> <u>9/19/14</u>	
Description Work Order Deviation				Disposition		Completed By <u>LT</u> <u>19-01-14</u>	
Don't have The good Rad Around The pocket of engraving (the 3 pockets) are affected Supposed to have 1/16 Rad but The part have 0.032 Rad. → Radius around the 2 tabs is as per drawing				Acceptable. Not high stress part		Lead hand / Supervisor Approval Verification <u>DA</u> <u>19-01-14</u>	
Root Cause Environment ☐ No Re-verification ☐ Design ☒ Operator ☐ Doc/Data ☐ Offset/Setup ☐ Equip/Tooling ☐ Supplier ☐ Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐				FAULT CATEGORY Pressure/Forced ☐ Temperature/Cure ☐ Bending ☐ Set-up ☐ Centre Not Concentric ☐ BOM/Route ☐ Cracks ☐ Broken/Damage/Defect ☐ Crimp/Kink/Ripple/Wave ☐ Inspection Incomplete/Unqualified ☐ Cuffs ☐ Contamination ☐ Crushing ☐ Countersink ☐ Heat Treat ☐ Cut Too Short ☐ Wave/Twist in Tube ☐ Instructions Incomplete/Unclear ☐ Marks/Chatter ☐ Drill Holes ☐ Power Loss/Surge ☐ Positioned Wrong ☐ Folio/Program ☐ Outside Dimensions ☐ Grain ☐ ☒ Over/Under tolerance ☐ Weld ☐ Part Incorrect ☐ Wrong Stock Pulled ☐ Part Lost/Missing ☐ Out of Sequence ☐ Part Moved ☐ Off-set ☐ Drawing ☐ Misabeled ☐ Finish ☐ Fit/Function ☐ Misread ☐ Misaligned/off center ☐ Turning Sequence ☐			
OTHER: <u>The operator mounted a tool with .032" rad instead of .063" rad</u>							